# OTHER NOTICES

**Dobzhansky, Th.** *Genetics and the Origin of Species.* Second edition, revised. Columbia Biological Series, No. XI. New York, 1941. Columbia University Press (Great Britain and Ireland, Humphrey Milford). Pp. xviii + 446. Price 28s.

THE first edition of this excellent book* has now been followed by a revised and enlarged edition. The book has been thoroughly brought up-to-date and has grown by 82 pages; the increase of the bibliography from 21 to 45 pages reflects the vigorous growth of evolutionary genetics, and the author has succeeded, as in the first edition, in integrating this vast material into a coherent whole. Several sections have been added; others, particularly in the field of population genetics, have been completely re-written. We have to be grateful to the author not only for the extremely lucid treatment of the subject, but also for his clear recognition of the shortcomings of our present knowledge, pointing out where more detailed information is needed and in what directions research should proceed. Again as in the first edition, the book opens up numerous Russian papers which are otherwise rather inaccessible.

It is no exaggeration to say that Prof. Dobzhansky's work is one of the best books ever written on the subject, nor is it hazardous to predict that this second edition will not be the last this book will see. No serious biologist can afford to ignore it.

G.

**Mottram, J. C.** *The Problem of Tumours. An Experimental Investigation.* London, 1942. H. K. Lewis & Co. Ltd. Pp. vii + 91. Price 7s. 6d.

TUMOURS may be produced by a large variety of agents; chemicals, like the cyclic hydrocarbons, radiations like ultra-violet, X-rays and gamma rays, heat and cold, changes in tonicity and hydrogen ion concentration, viruses and parasites may all have this effect. How can so many different agents all lead to the same result? Is there some common cellular change elicited by all these agents? Tumours probably always start from a single abnormal cell, or at most a small group of cells; hence the initial changes are as a rule unobservable. It was a fruitful idea of Dr. Mottram to apply various carcinogenic agents to unicellular organisms, such as Paramaecium and others, where their effect on the cells can be directly observed. All the carcinogens tested produced characteristic changes in the viscosity of the cells; increased viscosity of the cytoplasm inhibits cell fission, while nuclear division is unaffected; abnormals, and in rare cases "monsters" are formed which are polyploids or, more often, aneuploids. These abnormals often indefinitely transmit their anomalous structure to their asexual progeny. Not only are these abnormal races of Paramaecium produced by carcinogenic agents; Dr. Mottram ably exposes their essential similarity with tumour cells, though, of course, they do not form a compact tissue. If then, this similarity reflects a deeper relation, tumour formation is first and foremost a change in the cytoplasm of the cell, which interferes with cell division; irregular chromosome complements in tumour cells are a consequence of this, and the abnormal cells transmit their abnormal behaviour like the abnormal Paramaecia.

Dr. Mottram's study is an original contribution which deserves careful study, not least by the proponents of genetical theories of tumour formation.

H. GRÜNEBERG.

**Singer, Charles.** *A Short History of Science to the Nineteenth Century.* Oxford, 1941. Clarendon Press (Humphrey Milford). Pp. xiv + 399. Price 8s. 6d.

ADDRESSED mainly to the non-specialist reader, Prof. Singer's *Short History of Science* gives a lucid and well-written outline of the development of scientific ideas from their origin in Greek antiquity to their culmination in the doctrines of Energy and Evolution in the nineteenth century. As was to be expected, the work is completely reliable in its background of facts; what is more, it is stimulating throughout and, never losing itself in details, keeps the readers' attention focused on the wider historical perspectives.

H. G. HILL.

**University of Calcutta.** *Anthropological Papers.* New Series. No. 6. Calcutta University Press. 1941. Pp. 187.

THE sixth volume of this series which appears three years after the previous volume is entirely a record of research work of the members of the Department of Anthropology, Calcutta University. It is notable mainly for two longish papers, the one by Professor K. P. Chattopadhyay on Khasi Kinship and Social Organization, and the other by Mr. J. K. Bose on the Garo Law of Inheritance.

There are also four very short papers of physical anthropological interest by Dr. R. N. Basu, and Mr. M. N. Basu. These are: Studies in Eyebrows among the Bengalees; Incidence of the Muscle Palmaris Longus among the Marwari Community; The Pterion in Indian Human Crania; and Study of the Head-Hair of the Noluas of Bengal.

* EUGENICS REVIEW, vol. **30**. Pp. 69-70. April 1938.

In the last mentioned paper we learn that a Mean index of 77·4 was obtained for hair form from a sample of 50 Noluas. The Mean size or the area of cross-section surface of hair shaft in the same sample was ·00315 sq. mm. The technique for microscopic examination which was followed was that of Trotter, and it is to be hoped that more students will aim at rendering a quantitative assessment of a physical character, which though important, is usually left at the mercy of description.

K. L. LITTLE.

# PERIODICALS

## American Journal of Physical Anthropology

**December 1941, Vol. 38, No. 4.**—*Growth Rate of Chinese.*—By C. Wu and S. Soong.—Gives averages for 40,000 cases. They show that the rate of girls' growth slows down a little after 14, as compared with that of boys, becomes slower still after 16, and practically ends at 18, whereas in boys it goes on, in some features, well beyond 20. There are two marked spurts, one late pre-natal and one in adolescence (say 11-14 in girls and 13-16 in boys) so far as stature is concerned. The upper part of the body grows more slowly than the lower in the later stages and mass and surface increase faster than does length. The absolute values for body measurements are smaller than among western Europeans, a result, in the authors' opinion, of long continued poor nutrition and probably capable of betterment.

*Blood Groups in India* (twelve aboriginal peoples in the peninsula of India).—By Eileen Macfarlane and S. S. Sarkar.—Shows that only among Paniyans of the western Ghats of South Malabar who still live by hunting and collecting and have very broad noses and very short stature, and the Chenchus of the Eastern Ghats between Madras and Hyderabad (a much taller group with less broad noses) is there more A than B. The predominance of A among Paniyan is overwhelming and their nasal breadth gives a mean nasal index of 95·1 per cent, whereas in the other groups it varies between 80 and 90 with Bagdi and Toda showing averages below this, at 74·3 and 74·9 respectively. There is in general an increase in frequencies of B and AB from east to west across Central India; the Todas, in the south, also have high values for B and AB. The lowly agricultural Oraons have shifted from the south within the past few centuries into Chota Nagpur; they show a relatively high frequency of O and the value for B is higher than in any other group examined, save the Bhils. The value for A is very low, and the authors wonder whether they and the Paniyans may not represent two diverse aboriginal stocks. Averages for stature (Paniyan 1574 mm., Oraon 1618 mm.) and nasal index (Paniyan 95·1, Oraon 82·7 because of much greater lengths) are markedly contrasted. Apart from the Paniyans and Oraons, the peoples examined show more A as one goes from south to north in the peninsula.

H. J. F.

## Annals of Eugenics

**October 1941. Vol. 11, Part 2.**—*An investigation of the physical and mental characteristics of a pair of like twins reared apart from infancy.*—By Nora Yates and Herbert Brash.—A number of instances of identical twins having been subjected to different environments from infancy have been reported in North America, but none have previously been discovered in Britain. There is good reason to believe that these two boys, examined in their seventeenth year, are genetically identical. The one who had been reared in an urban environment was superior in intelligence to his twin on the evidence of standard tests; on the other hand, the boy reared under semi-rural, and economically better, conditions had the advantage physically. Results of medical examinations and intelligence tests on both boys are fully recorded.

*Uncomplicated hereditary megalocornea.*—By W. J. B. Riddell.—A pedigree containing four males and one female showing this condition has been investigated. Exact measurements of the corneal diameters of four of these and of some unaffected members of the family are compared. No individuals having defective colour vision were found, and thus no evidence could be obtained on the existence of a sex-linkage of the corneal abnormality. It is suggested however, that sex differences in size of cornea, which have sometimes been reported, may be due to the presence of sex-linked megalocornea.

*The classification of hair and eye colour upon developmental and genetic bases.*—By M. A. MacConaill.—A sample from Sheffield of 100 males of age 21 years showed an excess of dark-eyed, blond-haired individuals, and a deficiency of blue-eyed, dark-haired, as compared with samples of males and females aged 30 to 40, the proportions of individuals light in both or dark in both characters being very similar in the three samples. No explanation of this difference is offered, though the author appears to hold the view that it is a result